

IN THE CLAIMS:

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

Claims 1-4 (canceled)

5. (currently amended) ~~An apparatus~~A cache server set between a content server and a plurality of client clients for distributing contents to the ~~client~~clients, based on requests sent from the clients, said content server is requested to provide contents by said clients via said cache server and in response transfers said requested contents to the clients, said cache server comprising:

an apparatus for collecting contents access situation information from the ~~client~~clients;

an apparatus for analyzing contents access trends based on the contents access situation information of accesses to the contents as conducted by the clients;

an apparatus for transmitting the contents access trends to an apparatus a server which predicts contents expected to be in demand for said clients in the future based on the contents access trends and causing transmits the contents expected to be in demand in the future to be transmitted;

an apparatus for receiving the contents expected to be in demand in the future from the content server in advance before an access request requests are is received from the clientclients;

~~an a~~a cache apparatus for storing the received contents; and

an apparatus for transmitting ~~the requested contents~~ from the contents expected to be in demand in the future to the client-clients in accordance with the request ~~requests~~ when received from the client ~~clients~~.

6. (previously presented) An apparatus for distributing contents to a client as defined in claim 5, comprising:

an apparatus for transmitting the contents access situation information to the server which transmits a list of the contents predicted;

an apparatus for receiving the list of the contents from the server; and

an apparatus for acquiring the contents based on the list of the contents.

7. (currently amended) ~~An~~ A cache server apparatus set between a content server and a plurality of ~~client-clients~~ for distributing contents to the ~~client-clients~~, based on requests sent from the clients, said content server is requested to provide contents by said clients via said cache server and transfers said requested contents to the clients, said cache server comprising:

an apparatus for collecting contents access situation information from the ~~client-clients~~;

an apparatus for transmitting the contents access situation information to a server which analyzes contents access trends based on the contents access situation information of accesses to the contents as conducted by the clients, predicting contents expected to be in demand in the future and causing transmits the contents predicted ~~expected to be in demand in the future to be transmitted~~; and

an apparatus for receiving the contents expected to be in demand in the future from the content server in advance before ~~an access request~~ requests ~~is are~~ received from the ~~client~~clients, storing the received contents, and transmitting the requested contents from the contents expected to be in demand in the future to the ~~client~~clients in accordance with the request requests when received from the ~~client~~clients.

8. (currently amended) ~~An apparatus~~A cache server set between a content server and a plurality of client-clients for distributing contents to the ~~client~~clients, based on requests sent from the clients, said content server is requested to provide contents by said clients via said cache server and transfers said requested contents to the clients, said cache server comprising:

an apparatus for collecting contents access situation information from the ~~client~~clients;

an apparatus for analyzing contents access trends based on the contents access situation information of accesses to the contents as conducted by the clients;

an apparatus for transmitting the contents access trends to ~~a server~~an apparatus which predicts contents expected to be in demand for said clients in the future based on the contents access trends and ~~transmits causing the contents~~ expected to be in demand in the future to be transmitted;

an apparatus for receiving the contents expected to be in demand in the future from the content server in advance before ~~a request~~ requests are is received from the ~~client~~clients;

~~as a cache~~ apparatus for storing the received contents;

an apparatus for storing a database for recording information for distinguishing a client and recording permission information concerning distribution of contents to the client;

a database access apparatus;

an authentication apparatus for authenticating the client and acquiring the information for distinguishing the client;

an apparatus for receiving the permission information concerning distribution of contents to the client from a server which manages distribution permission information;

an apparatus for requesting acquisition of permission to distribute the contents from the server to the client; and

an apparatus for transmitting the requested contents from the contents expected to be in demand in the future to the client-clients in accordance with the request-requests when received from the client-clients,

wherein:

the client distinguishing information is acquired by the authentication apparatus when contents distribution request is received from the client,

the distribution permission information of the contents is checked for the client distinguishing information by the database access apparatus,

the contents are distributed to the client when the distribution is permitted,

a request is made to acquire permission to distribute the contents from the server to the client by the apparatus for requesting acquisition of permission when the distribution is not permitted, and

the permission information concerning distribution of contents to the client is written by the database access apparatus onto the database for recording permission information, and the contents are distributed to the client when the apparatus for receiving the permission information receives permission to distribute the contents to the client from the server.

9. (previously presented) The apparatus as defined in Claim 8, wherein:

the contents are encrypted and an entry which registers the decryption key of the contents exists in the database, and the server manages the decryption key, the apparatus further comprises:

an apparatus for requesting the decryption key from the server which manages the decryption key;

an apparatus for receiving the decryption key from the server; and

an apparatus for distributing the encryption key to the client,

wherein:

when distribution of the contents to the client is permitted and the decryption key is registered in the database, the decryption key is distributed to the client by the apparatus for distributing the decryption key,

when distribution of the contents to the client is permitted and the decryption key is not registered in the database, the decryption key is requested from the server by the apparatus for requesting the decryption key, received by the apparatus for receiving the decryption key, registered in the database by the database access apparatus, and distributed to the client by the apparatus for distributing the decryption key, and

when distribution of the contents to the client is not permitted, the apparatus for receiving the permission information receives the distribution permission, and the database access apparatus writes the permission information onto the permission information concerning the distribution of the contents in the database,

the decryption key is requested from the server by the apparatus for requesting the decryption key, received from the server by the apparatus for receiving the decryption key, registered in the database by the database access apparatus, and distributed to the client by the apparatus for distributing the decryption key.

10. (previously presented) The contents distribution apparatus defined in claim 5, wherein both a first contents distribution apparatus and a second contents distribution apparatus are the contents distribution apparatus,

wherein:

the first contents distribution apparatus transmits first contents acquired from a neighboring server to the second contents distribution apparatus, and

the second contents distribution apparatus transmits second contents acquired from a neighboring server to the first contents distribution apparatus.

11. (previously presented) The contents distribution apparatus as defined in claim 5, further comprising an apparatus for determining a deletion timing of the contents acquired using the contents access situation information.

12. (canceled)

13. (previously presented) The contents distribution as defined in claim 5, wherein this apparatus receives the contents from the server in a time zone when there is sufficient network bandwidth.

14. (previously presented) The contents distribution apparatus as defined in claim 5, wherein this apparatus distributes the contents to the client only when distribution of the contents to the client is permitted.

15. (previously presented) The contents distribution apparatus as defined in claim 7, comprising:

an apparatus for transmitting the contents access situation information to the server which transmits a list of the contents predicted;

an apparatus for receiving the list of the contents from the server; and

an apparatus for acquiring the contents based on the list of the contents.

16. (canceled)

17. (previously presented) The contents distribution apparatus as defined in claim 7, wherein this apparatus receives the contents from the server in a time zone when there is sufficient network bandwidth.

18. (previously presented) The contents distribution apparatus as defined in claim 7, wherein this apparatus distributes the contents to the client only when distribution of the contents to the client is permitted.

19. (currently amended) An apparatus set between a server and a client for distributing contents to the client, comprising:
an apparatus for collecting contents access situation information from the client;
an apparatus for analyzing contents access trends based on the contents access situation information;
an apparatus for transmitting the contents access trends to a server which predicts contents expected to be in demand in the future based on the contents access trends and transmits the contents;
an apparatus for receiving the contents expected to be in demand in the future from the server in advance before an access request is received from the client;
an apparatus for storing the received contents; and
an apparatus for transmitting the contents to the client in accordance with a request the request when received from the client.
~~The contents distribution apparatus as defined in claim 5,~~

wherein this apparatus calculates an acquisition weight based on a value obtained by multiplying the number of distributions for genre name and the number of distribution for producer by parameters, and acquires the contents from the server in decreasing order of acquisition weight.

20. (currently amended) An apparatus set between a server and a client for distributing contents to the client, comprising:

- an apparatus for collecting contents access situation information from the client;
- an apparatus for analyzing contents access trends based on the contents access situation information;
- an apparatus for transmitting the contents access trends to a server which predicts contents expected to be in demand in the future based on the contents access trends and transmits the contents;
- an apparatus for receiving the contents expected to be in demand in the future from the server in advance before an access request is received from the client;
- an apparatus for storing the received contents; and
- an apparatus for transmitting the contents to the client in accordance with a request the request when received from the client; and~~The contents distribution apparatus as defined in claim 5, further comprising~~
- an apparatus for deleting contents,

wherein this apparatus calculates a deletion weight based on the number of distributions for name, the number of distributions for genre name, the number of distributions for producer and the last distribution time, and deletes the stored contents in increasing order of the deletion weight.

21. (currently amended) An apparatus set between a server and a client for distributing contents to the client, comprising:

an apparatus for collecting contents access situation information from the client;

an apparatus for transmitting the contents access situation information to a server which analyzes contents access trends based on the contents access situation information, predicting contents expected to be in demand in the future and transmits the contents predicted; and

an apparatus for receiving the contents expected to be in demand in the future from the server in advance before an access request is received from the client, storing the received contents, and transmitting the contents to the client in accordance with the request when received from the client~~The contents distribution apparatus as defined in claim 7,~~

wherein this apparatus calculates an acquisition weight based on a value obtained by multiplying the number of distributions for genre name and the number of distributions for producer by parameters, and acquires the contents from the server in decreasing order of the acquisition weight.

22. (currently amended) An apparatus set between a server and a client for distributing contents to the client, comprising:

an apparatus for collecting contents access situation information from the client;

an apparatus for transmitting the contents access situation information to a server which analyzes contents access trends based on the contents access situation information, predicting contents expected to be in demand in the future and transmits the contents predicted; and

an apparatus for receiving the contents expected to be in demand in the future from the server in advance before an access request is received from the client, storing the received contents, and transmitting the contents to the client in accordance with the request when received from the client;
and~~The contents distribution apparatus as defined in claim 7, further~~
comprising

an apparatus for deleting contents,

wherein this apparatus calculates a deletion weight based on the number of distributions for name, the number of distributions for genre name, the number of distributions for producer and the last distribution time, and deletes the stored contents in increasing order of the deletion weight.

23. (currently amended) An apparatus set between a server and a client for distributing contents to the client, comprising:

an apparatus for collecting contents access situation information from the client;

an apparatus for analyzing contents access trends based on the contents access situation information;

an apparatus for transmitting the contents access trends to a server which predicts contents expected to be in demand in the future based on the contents access trends and transmits the contents;

an apparatus for receiving the contents expected to be in demand in the future from the server in advance before a request is received from the client;

an apparatus for storing the received contents;

an apparatus for storing a database for recording information for distinguishing a client and recording permission information concerning distribution of contents to the client;

a database access apparatus;

an authentication apparatus for authenticating the client and acquiring the information for distinguishing the client;

an apparatus for receiving the permission information concerning distribution of contents to the client from a server which manages distribution permission information;

an apparatus for requesting acquisition of permission to distribute the contents from the server to the client; and

an apparatus for transmitting the contents to the client in accordance with a requestthe request when received from the client.

wherein:

the client distinguishing information is acquired by the authentication apparatus when contents distribution request is received from the client.

the distribution permission information of the contents is checked for the client distinguishing information by the database access apparatus.

the contents are distributed to the client when the distribution is permitted.

a request is made to acquire permission to distribute the contents from the server to the client by the apparatus for requesting acquisition of permission when the distribution is not permitted, and

the permission information concerning distribution of contents to the client is written by the database access apparatus onto the database for

recording permission information, and the contents are distributed to the client when the apparatus for receiving the permission information receives permission to distribute the contents to the client from the server.
The contents distribution apparatus as defined in claim 8,

wherein this apparatus calculates an acquisition weight based on a value obtained by multiplying the number of distributions for genre name and the number of distributions for producer by parameters, and acquires the contents from the server in decreasing order of the acquisition weight.

24. (currently amended) An apparatus set between a server and a client for distributing contents to the client, comprising:

an apparatus for collecting contents access situation information from the client;

an apparatus for analyzing contents access trends based on the contents access situation information;

an apparatus for transmitting the contents access trends to a server which predicts contents expected to be in demand in the future based on the contents access trends and transmits the contents;

an apparatus for receiving the contents expected to be in demand in the future from the server in advance before a request is received from the client;

an apparatus for storing the received contents;

an apparatus for storing a database for recording information for distinguishing a client and recording permission information concerning distribution of contents to the client;

a database access apparatus;

an authentication apparatus for authenticating the client and acquiring the information for distinguishing the client;

an apparatus for receiving the permission information concerning distribution of contents to the client from a server which manages distribution permission information;

an apparatus for requesting acquisition of permission to distribute the contents from the server to the client; and

an apparatus for transmitting the contents to the client in accordance with a request the request when received from the client.

wherein:

the client distinguishing information is acquired by the authentication apparatus when contents distribution request is received from the client,

the distribution permission information of the contents is checked for the client distinguishing information by the database access apparatus,

the contents are distributed to the client when the distribution is permitted,

a request is made to acquire permission to distribute the contents from the server to the client by the apparatus for requesting acquisition of permission when the distribution is not permitted, and

the permission information concerning distribution of contents to the client is written by the database access apparatus onto the database for recording permission information, and the contents are distributed to the client when the apparatus for receiving the permission information receives

permission to distribute the contents to the client from the server. The contents
distribution apparatus as defined in claim 8, further comprising

an apparatus for deleting contents,

wherein this apparatus calculates a deletion weight based on the
number of distributions for name, the number of distributions for genre name,
the number of distributions for producer and the last distribution time, and
deletes the stored contents in increasing order of the deletion weight.